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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
Office of the Secretary
445 Twelfth Street, SW Room TWB-204
Washington, DC 20554

Re: Ex parte - CC Docket No. 96-98
In the Matter of the Local Competition
Provisions in the Telecommunications Act of 1996

Dear Ms. Salas:

The enclosed analysis of the application of forward – looking cost principles in the states is being filed for inclusion in the record of this proceeding. Copies are also being provided to the individuals listed below.

Two copies of this Notice are being submitted to the Secretary of the Commission in accordance with Section 1.1206(b)(1) of the Commission's Rules.

Very truly yours,

Albert M. Lewis

Enclosures
cc: Mr. C. Wright
Ms. K. Brown
Mr. L. Strickling
Mr. T. Power
Ms. L. Kinney
Mr. K. Dixon
Mr. K. Martin
Mr. P. Gallant

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List A B C D E

State Use of Forward-Looking Economic Cost Methodologies: Some Convergence in Principle, But Not in Practice

State Use of Forward-Looking Economic Cost Methodologies:
Some Convergence in Principle, But Not in Practice

Citing a consensus among economists that basing prices on forward-looking economic costs will "give appropriate signals to producers and consumers and ensure efficient entry and utilization of the telecommunications infrastructure," the Commission in its landmark *Local Competition Order* adopted such a methodology as "the approach for prices that best furthers the goals of the 1996 Act." *Local Competition Order* ¶ 620. Rather than simply announce an empty label, the Commission identified in the *Local Competition Order* and accompanying regulations the established economic criteria that distinguish a pro-competition forward-looking approach that "simulates the conditions in a competitive marketplace," *id.* ¶ 679, from anticompetitive approaches that are "forward-looking" on the surface only and remain "essentially an embedded cost methodology," *id.* ¶ 684. *See, e.g., Local Competition Order* ¶¶ 672-732; 47 CFR §§ 51.505-51.507.

In the intervening years, virtually every state commission independently has endorsed the *concept* that incumbent local exchange carriers' charges for unbundled network elements should be based on forward-looking economic costs, and not the backward-looking historical cost approaches that prevailed during the monopoly era.[1] Notwithstanding that the Commission's

[1] Constrained by a state statute introduced and enacted into law at the request of SBC that denies it the authority to permit the use of forward-looking costs in establishing UNE rates, the Arkansas Public Service Commission has allowed SWBT to set rates based on embedded costs. *See AT&T Communications of Southwest, Inc.'s Petition for Arbitration*, Docket No. 96-395-U, "Order," at 35 (Arkansas P.S.C. Feb. 28, 1997) ("The evidence reflects that SWBT's cost studies (continued . . .)

pricing rules were only recently reinstated as binding federal law by the Supreme Court, consensus at this level of generality is unsurprising given the text and core pro-competitive purposes of the Act. As one federal court has explained:

> [A forward-looking] methodology . . . facilitates rapid entry into the local telephone market and thereby serves the overriding and principal goal of the Act . . . . On the other hand, basing rates on historical [or embedded] costs would severely undercut new entrants . . . . For all these reasons, it is apparent that the [forward-looking] methodology . . . not only comports with the [Telecommunication Act], it is compelled by it.[2]

While a number of states have made significant progress in developing true forward-looking UNE rates, in practice many states – proceeding without the FCC's guidance as a result of the Eighth Circuit's now-overturned decision – have deviated from the most basic forward-looking cost principles in setting recurring charges, non-recurring charges, or both. Thus, many of the charges they have actually approved unquestionably have been generated by costing approaches that depart from the most fundamental principles of forward-looking pricing. The most egregious errors involve state commission approval of incumbent LEC costs studies that are inherently backward-looking and otherwise flawed in: (i) replicating the incumbent LEC's existing network architecture and configuration, regardless of efficiency; (ii) misattributing broadband costs to narrowband elements; (iii) assuming patently inefficient and enormously

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(. . . continued)
are based in large measure on embedded costs. Therefore, SWBT"s [rate proposal] is adopted as in compliance with Act 77 §9(e)").

[2] *Southwestern Bell Telephone Co.* v. *AT&T Communications, Inc.*, No. A 97-CA132 SS, slip op. at 24 (W.D. TX. Aug. 31, 1998).

costly operations such as manual order processing and unnecessary physical separation of already combined network elements; (iv) assuming no structure sharing whatever; (v) failing geographically to deaverage rates despite substantial conceded cost differences; (vi) inflating costs by assuming as much as 70 percent spare capacity; (vii) artificially shortening asset lives; (viii) inflating overhead costs well above efficient levels; and (ix) inflating capital costs substantially above rates investors currently demand. These errors are not simply disagreements about findings of fact and evidence related to cost study inputs. They reflect fundamental departures from the very notion of TELRIC as prescribed by the Commission's *Local Competition Order* endorsed by economicts.[3]

Consequently, only a few generalizations can be made about the rates adopted in state arbitration and rate proceedings: state commissions generally (i) have not permitted incumbent LECs to *explicitly* set their unbundled network element rates equal to their book costs; (ii) have not allowed incumbent LECs to overtly recover their opportunity costs through a methodology like the Efficient Component Pricing Rule; and, (iii) have prohibited the inclusion of explicit universal service subsidies in unbundled network element rates. This paper examines just some of the common fundamental methodological errors incumbent LECs have made (and state commissions have failed to correct) in setting unbundled network elements rates that make further generalizations impossible, and preclude any general finding that rates adopted by state commissions comply with the Commission's pricing rules.

[3] First Report and Order, *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, 11 F.C.C. Rcd. 15499 (1996) ("*Local Competition Order*").

Recurring UNE charges. Virtually every incumbent LEC has significantly departed from forward-looking methodologies in proposing recurring UNE rates, and few if any states have substantially corrected those errors. For example, the Florida PSC – despite purporting explicitly to adopt TELRIC pricing – determined that network elements should reflect "existing technology . . . [and] physical architecture deployed by" BellSouth.[4] This allowed BellSouth to base network element rates on embedded network architecture configurations that reflect years of monopoly-based inefficiency and strategic decisions to "gold-plate" networks for the provision of services other than the basic telephone services at issue in setting UNE rates.[5] As the Commission has recognized, "[t]his is essentially an embedded cost methodology."[6] By contrast, other state commissions properly concluded, as did the Commission, that forward-looking

[4] *In re Petitions by AT&T et. al.*, Docket No. 960833-TP, "Final Order on Arbitration," Order No. PSC-96-1579-FOF-TP, at 24-25 (Fla. P.S.C. Dec. 31, 1996).

[5] *See also DPUC Investigation into SNET's Unbundled Loops, Ports and Associated Interconnection Arrangements and Universal Service Fund in Light of the Telecommunications Act of 1996*, Docket 96-09-22, "Decision," at 51 (April 23, 1997) (Connecticut Department of Public Utility Control established UNE rates based on SNET's existing architecture, including an allocation for its deployment of hybrid-fiber coaxial cable to carry broadband signals).

[6] *Local Competition Order* ¶ 684; *see also id.* ¶ 683 (forward-looking costs are those "that a carrier would incur in the future"); *id.* ¶ 685 ("a forward-looking economic cost methodology based on the most efficient technology deployed in the incumbent's current wire center locations . . . most closely represents the incremental costs that incumbents actually expect to incur in making network elements available to new entrants"); Fifth Report and Order, *Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs*, CC Docket No. 96-45, 97-160, ¶ 66 (rel. Oct. 28, 1998) ("Existing incumbent LEC plant is not likely to reflect forward-looking technology or design choices.")

pricing at most takes a single feature of the incumbent LECs' existing network as a given – the current wire center locations.[7]

In another instance where basic forward-looking principles clearly were ignored, the Pennsylvania Public Utility Commission openly rejected the need for forward-looking, economically efficient UNE rates. The administrative law judge in the Pennsylvania Bell Atlantic-MFS Intelenet arbitration concluded that "[w]hile BA-PA's proposed cost study clearly meets some of [the FCC's pricing rules], just as obviously, it does not meet others[]" and that the Pennsylvania "Commission [had] no written factual record upon which it can determine the proposed studies will meet the FCC's cost study requirements."[8] The Pennsylvania PUC, noting that it was "not required to follow" the Commission's pricing rules, rejected the recommended

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[7] *See, e.g., In re Arbitration of AT&T Communications of the Midwest and GTE Midwest, Inc.*, "Preliminary Arbitration Decision," Docket No. ARB-96-3 (Iowa Utils. Bd. Nov. 14, 1996) at 3; *In re Arbitration of AT&T Communications of the Midwest and U S WEST Communications, Inc.*, "Preliminary Arbitration Decision," Docket Nos. ARB-96-1, ARB-96-2 (Iowa Utils. Bd. Oct. 18, 1996) at 4; *In re AT&T Communications of the Midwest, Inc.'s Petition for Arbitration with Contel of Minnesota d/b/a GTE Minnesota*, "Order Resolving Arbitration Issues and Opening Cost Proceeding" (Minn. P.U.C. Dec. 12, 1996) at 28; *In re Consolidated Petitions of AT&T Communications of the Midwest, MCIMetro Access, and MFS for Arbitration with US West Communications*, "Order Resolving Arbitration Issues and Initiating a US West Cost Proceeding" (Minn. P.U.C. Dec. 2, 1996) at 61; *In re the Interconnection Contract Negotiations between AT&T Communications of the Midwest, Inc. and GTE Midwest, Inc.*, "Arbitrator's Decision" (Neb. PSC Dec. 12, 1996) at 14 (Hatfield Model 2.2.2 adopted); *AT&T Communications' Petition for Arbitration of Interconnection Terms, Conditions and Prices from U S WEST*, "Preliminary Decision on Issues for Arbitration of Interconnection Agreement between U S WEST and AT&T in the State of Nebraska" (Neb. PSC Dec. 2, 1996) at 13.

[8] *Application of MFS Intelenet*, Docket No. A-310203F0002, "Recommended Decision," at 29 (Penn. PUC, Aug. 30, 1996).

decisions' use of the FCC proxy rate and chose to adopt Bell Atlantic's proposed rates instead.[9] The PUC openly conceded that the network element rates it was adopting would *not* permit meaningful competition in the residential market.[10]

Incumbent LECs have further succeeded in recovering embedded costs by submitting pre-1996 Act cost studies labeled "forward-looking" that really are backward engineered to support existing embedded rates. For example, in Florida, BellSouth openly admitted that many of its UNE rates were based on tariffed rates established before the 1996 Act.[11] Indeed, by not making any significant changes to BellSouth's tariff based price proposals, the PSC accepted cost studies that included claims BellSouth later withdrew in other jurisdictions. Similarly, the Connecticut Department of Public Utility Control rejected cost-based pricing for interoffice transport, signaling, and call-related databases, and instead set prices for these UNEs at parity with current intrastate access rates for similar facilities.[12]

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[9] *Petition of MCI Metro Access Transmission Services Inc.*, Docket No. A-310236F0002, "Opinion and Order," at 32 (Penn. PUC, Dec. 19, 1996).

[10] *Application of MFS Intelenet et al.*, Docket Nos. A-310203F0002, "Final Opinion and Order," at 12 (Penn. PUC, July 19, 1997)

[11] *See* BellSouth Telecommunications, Inc. Brief of the Evidence, *In re: Petitions by AT&T Communications, et al.*, Docket No. 960833-TP et al. (Fla. PSC Oct. 23, 1996), at 26 ("BellSouth proposes existing tariffed rates for loop transport facilities); *id.* at 25 (the local switching "usage rate is based on the approved tariff rate"); *id.* at 22 (loop rate); *id.* at 26 (operator services rate); Testimony of Varner ("Tariffed prices for existing, unbundled tariffed services . . . are the appropriate prices for these unbundled elements"); Testimony of Scheye (same).

[12] *Application of SNET for Approval of Total Service Long Run Incremental Cost Studies and Rates for Unbundled Elements*, Docket 97-04-10, "Decision," at 56-57 (Conn. DPUC May 20, 1998).

Other states take similarly inexplicable actions without any explanation. An administrative law judge in Louisiana unambiguously concluded that BellSouth's cost studies did not reflect forward-looking costs and rejected "BellSouth's argument that the [forward-looking] definition . . . directs an analysis of the technology available at the time BellSouth placed individual facilities or equipment into service as opposed to the date of the cost studies."[13] Without comment or analysis, the Louisiana PSC ignored the findings of the ALJ and her recommendation that BellSouth be required to conduct additional cost studies and instead adopted BellSouth's rates, deeming them "permanent" and "cost-based[.]"[14] Consequently, BellSouth's switch port rates are nearly four times higher than those approved by other state commissions ostensibly to compensate BellSouth for unspecified vertical feature costs such as call waiting and call forwarding, even though such vertical features functionality is inherent in modern switches.[15] Other UNE rates are distorted as well, reflecting inefficient network configuration and inappropriate embedded depreciation rates, just to name a few errors.[16]

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[13] Final Recommendation, *Review and Consideration of BellSouth's TSLRIC and LRIC Cost Studies in Order to Determine the Cost of Interconnection Services and Unbundled Network Elements to Establish Reasonable, Non-Discriminatory Cost-Based Tariff Rates*, Docket No. U-22022/22093 at 26, 55 (La. PSC Oct. 17, 1997).

[14] *Review and Consideration of BellSouth's TSLRIC and LRIC Cost Studies in Order to Determine the Cost of Interconnection Services and Unbundled Network Elements to Establish Reasonable, Non-Discriminatory Cost-Based Tariff Rates*, "Order", Docket Nos. U-22022/22093 (La. PSC Oct. 22, 1997) ("Louisiana Pricing Order"), at 4. Some modest modifications were made to BellSouth's rates by a staff consultant, but the ALJ had criticized those proposed adjustments as well.

[15] *See In re Second Application by BellSouth Corp.*, CC Docket No. 98-121, "Evaluation of the United States Dep't of Justice," at 24-26 (FCC Aug. 19, 1998).

[16] *See, e.g.*, Final Recommendation at 55 (La. PSC Oct. 17, 1997).

The lack of uniform pricing principles sometimes produces radically different results across multiple states for the same incumbent LEC. In Minnesota, as the arbitrator found, U S WEST's proposed loop cost study "does not qualify for serious consideration in this proceeding. . . . has not been shown to produce reliable, reasonable results. . . . cannot be used to calculate geographically deaveraged rates in a meaningful way."[17] The arbitrator also found that U S WEST's cost study could not be easily corrected and that it was thus "an unacceptable model for the purpose of determining UNE costs[.]"[18] Yet other state commissions used U S WEST cost studies and proposed rates when setting UNE prices. Hence, the Arizona Commission, unconstrained by the FCC's pricing rules, was free to substantially inflate the UNE loop rate above levels it had previously found appropriate. Commissioner Renz D. Jennings observed in [his] dissent:

> After U.S. West testimony in the 1995 rate case of $5.96 for the business loop and $11.46 for the residential loop (which the CLECs advocated for the unbundled loop in this case), the Commission set the price of 1FR residential which includes the loop, at $13.18. Then, only three years later, U.S. West hired a $375 per hour consultant, who after putting in enough hours to collect over a half million dollars, testified that the cost of the loop alone was $30.20. Through their amendments the majority has moved aggressively toward this latest U.S. West number and has sided almost totally with U.S. West, using 'evidence' not in the record, such as post-hearing models when the results suit U.S. West.[19]

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[17] *Generic Investigation of U S West Communications, Inc.'s Cost of Providing Interconnection and Unbundled Network Elements*, MPUC Docket Nos. P-442, *et al.*, "Report of the Administrative Law Judge," at 12 (Minn. P.U.C. Nov. 17, 1998).

[18] *Id.*

[19] *Petition of MCI Metro Access Transmission Services Inc.*, Docket No. U-3021-96-448 *et al.*, "Opinion & Order," (Arizona Corp. Comm., January 30, 1998) (dis. op. Commissioner Renz D. Jennings); *see also* Letter of Senator John McCain, Chairman of U.S. Senate Committee on Commerce, Science, and Transportation, to the Hon. Renz Jennings, Commissioner, Arizona (continued . . .)

Not surprisingly, Commissioner Jennings concluded that the arbitration "[o]rder essentially confirms that we will have competition in name only."[20]

And if all these problems were not enough, some commissions have inexplicably reversed their commitments to forward-looking pricing mid-proceeding. In one such instance, after an extensive arbitration, the New Jersey Board's arbitrator concluded that the HAI model complied with the Commission's TELRIC pricing methodology and that UNE rates should be set using that model.[21] Nearly a year after the arbitration was concluded – and after repeated assurances from the Board that it would use the arbitrator's rates – the New Jersey Board chose to discard the arbitrator's findings in favor of rates the Board established in a generic proceeding. But the generic proceeding's UNE rates were inherently flawed. Rather than concluding that any of the submitted cost models complied with Act's requirements or modifying one of the studies so that it did comply with the Act, the Board concluded that both the entrant and incumbent studies were flawed and then arbitrarily averaged their results.[22] The Board did not explain how

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Corporation Commission (Jan. 16, 1998) ("I am very concerned about the local rates established by the Arizona Corporation Commission. . . . The resale discount appears so low, and the unbundled loop rate so high, that they may effectively prevent competitive local telephone service in the state of Arizona").

[20] *Id.*

[21] *Petition of AT&T Communications of New Jersey, Inc. for Arbitration with Bell Atlantic New Jersey, Inc. Pursuant to Section 252*, "Judgment of the Arbitrator," Docket No. TO96070519 (Nov. 8, 1996).

[22] The Board assigned 60% and 40% weights respectively to the Bell Atlantic and HAI model rates. *Investigation Regarding Local Exchange Competition for Telecommunications Services*, "Telecommunications Decision and Order," Docket No. TX95120631 (December 2, 1997).

it arrived at its weighting of the two cost studies, nor did it justify its heavy reliance on a Bell Atlantic study that it had found: (i) used inappropriate asset lives; (ii) applied a "common cost" factor based on an impermissible backward-looking methodology; (iii) inflated the cost of capital by over 25 percent; and (iv) permitted Bell Atlantic to over-recover costs.[23] Further aggravating already excessive rates, Bell Atlantic's cost study included the higher costs of "gold-plated" facilities necessary to make Bell Atlantic's loops capable of carrying broadband signals even though its own witness admitted that broadband facilities are "not necessary to provide narrowband [telephone] services," and that "overall" including these facilities increased the costs of its loop network elements.[24] And in possibly the most blatant error of all, the Board accepted Bell Atlantic's use of a 30 percent fill factor, which requires new entrants and consumers to pay Bell Atlantic on the basis of the patently absurd assumption than an efficient local carrier would perpetually maintain 70 percent of its cable capacity as unused "spare" capacity.[25]

Not surprisingly, the UNE platform rates in states failing to properly apply fundamental forward-looking economic criteria are excessive. As Table 2 in Appendix 1 illustrates, the states just discussed established UNE-platform rates anywhere from 66% to 141% above the HAI Model estimates and as much as 127% above the FCC Proxy rates.

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[23] *Id.*, at 73-79.

[24] Testimony of Wylonis, *Investigation Regarding Local Exchange Competition for Telecommunications Services*, Docket No. TX95120631, Tr. At 81, 83 (N.J. BPU Feb. 7, 1997).

[25] Bell Atlantic admitted that the 30 percent fill factor was based on Bell Atlantic's historic fill levels. Opening Brief of Bell Atlantic-New Jersey, Inc., Docket No. TX 95120631, at 53 (N.J. BPU, submitted February 25, 1997).

The rankings in Appendix 1, Table 4 further confirm that flawed and inconsistent application of recurring pricing principles has produced rates that bear little relation to forward-looking costs. In this regard, the largest explanatory factor in the forward-looking cost of providing network elements should be line density because loop costs (by far the largest network element cost) decline significantly in areas with high line density. As Table 4 illustrates, however, the rankings from lowest to highest line density do not remotely track the rankings from highest to lowest ordered UNE platform rates. This discrepancy alone strongly suggests that states have not conformed in their pricing principles regarding forward-looking economic pricing of network elements.[26]

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[26] Many states also have chosen not to adopt geographic deaveraging despite the 1996 Act's requirement that network elements be nondiscriminatory and based on cost. These states include, for example, Florida, Idaho, Minnesota, Ohio, Oregon, South Dakota, Washington, and Wyoming. *See Petition of AT&T Communications of the Pacific Northwest, Inc. for Arbitration of Interconnection Rates, Terms, and Conditions with GTE Northwest, Inc.*, "Arbitrator's Decision" (Oregon PUC, issued December 12, 1996) at 13; *aff'd, Petition of AT&T Communications of the Pacific Northwest, Inc. for Arbitration of Interconnection Rates, Term, and Conditions with GTE Northwest, Inc.*, "Commission Decision" (Oregon PUC, issued January 13, 1997) at 2; *AT&T Communications of the Midwest, Inc.'s Petition for Arbitration with Contel of Minnesota*, "Order Resolving Arbitration Issues and Opening Cost Proceeding" (Minnesota PUC, issued December 12, 1996) at 26; *Sprint Communications Company L.P. Petition for Arbitration with GTE North Inc.*, Case No. 96-1021-TP-ARB, "Arbitration Panel Report" (Ohio PUC, December 27, 1996) at 34; *aff'd, Sprint Communications Co. L.P.*, No. 96-1021-TP-ARB, 1997 WL 120220, at *16 (Ohio P.U.C. Jan. 30, 1997); *Petition for Arbitration of an Interconnection Agreement between MCIMetro Access Transmission Services, Inc. and GTE Northwest Inc.*, Docket No. UT-960338, "Arbitrator's Report and Decision" (Washington Utilities and Transportation Commission, January 3, 1997) at 12; *Interconnection Contract Negotiations between AT&T Communications of the Midwest, Inc. and US West Communications Inc. Pursuant to 47 U.S.C. Section 252*, TC96-184, "Findings of Fact and Conclusions of Law; Order and Notice of Entry of Order" (S.D. Pub. Util. Comm'n Mar. 20, 1997) at 12; *Interconnection Contract between AT&T Communications of the Mountain States, Inc. and US West Communications, Inc.*, Docket No. USW-T-96-15, ATT-T-96-2, "First Order Addressing Substantive Arbitration Issues" (Idaho Pub. Util. Comm'n Mar. 24, 1997) at 28; *Arbitration by the Public Service Commission of an Interconnection Agreement between U S*
(continued . . .)

Some state commissions, by contrast, have put the concept of forward-looking, economically efficient pricing into *practice* by establishing recurring UNE rates that generally reflect efficient network construction, configuration, and utilization as well as Commission approved asset lives and forward-looking estimates of incumbent LEC capital costs.[27] Usually those state commissions have relied on rigorously verified Total Element Long Run Incremental Cost ("TELRIC") studies based on the Commission's formerly stayed pricing methodology or they have modified deficient studies in an effort to conform them with TELRIC principles.

For example, the Minnesota Commission adopted the HAI model, with some adjustments. The HAI 5.0a model, like its earlier versions,[28] employs a bottoms-up approach to estimating universal service and unbundled network element rate costs. Consistent with the Commission's scorched node approach, it uses an incumbent LEC's wire centers locations, but otherwise estimates the cost of a new basic telephone network using the most efficient

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WEST Communications Inc., and AT&T Communications of the Mountain States, Inc., under 47 USC § 252, "Arbitration Order" (Wyoming Pub. Serv. Comm'n April 23, 1996) at 41; *Petitions by AT&T Communications of the Southern States, Inc., MCI Telecomm. Corp. and MCI Metro Access, for Arbitration of Certain Terms and Conditions of a Proposed Agreement with GTE Florida, Inc.*, No. 960847-TP (Fla. Pub. Serv. Comm'n Jan. 17, 1997) at 25 ("[T]he Act can be interpreted to allow geographic deaveraging of unbundled elements, but we do not believe it can be interpreted to require geographic deaveraging.").

[27] As discussed below, many states that successfully have applied forward-looking economic principles to recurring charges have failed to do so with respect to non-recurring charges.

[28] Prior to version 5.0, the HAI model was called the Hatfield Model. Minnesota adopted version 2.2, release 2.

technology currently available. Hence, the HAI model estimates forward-looking as opposed to historical, embedded costs. The FCC recently incorporated large portions of the HAI model into it its universal service cost mechanism.[29]

The Minnesota Commission also determined that U S WEST's cost of capital today is 9.98% – significantly lower than the 11.25% rate established by the FCC in 1990[30] – and adopted Commission prescribed asset lives.[31] Other examples of the Minnesota Commission's adherence to a forward-looking pricing methodology included its use of a 10% corporate overhead factor as well as a 30% discount on historic operations expenses to better approximate the operations costs an efficient incumbent LEC would incur today.[32] Finally, in adopting the HAI model, the PUC implicitly recognized that an efficient local service provider would employ distribution plant fill factors ranging from 50% to 75%.[33]

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[29] *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, "Fifth Report & Order," (rel. Oct. 28, 1998).

[30] *See Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers*, CC Docket No. 89-624, "Order," 5 FCC Rcd 7507, 7509, ¶ 13 (1990).

[31] *AT&T Communications of the Midwest, Inc.*, Docket No. P-442, 421/M-96-855, *et al.*, "Order Resolving Arbitration Issues," at 62 (Minnesota PUC, Dec. 2, 1996).

[32] *See* Hatfield Associates, Inc., "Model Description: Hatfield Model Version 2.2 Release 2," (September 4, 1996). The Minnesota Commission has not ordered geographic loop deaveraging as required by the Commission's rules. *See AT&T Communications of the Midwest, Inc.'s Petition for Arbitration with Contel of Minnesota*, "Order Resolving Arbitration Issues and Opening Cost Proceeding," at 26 (Minnesota PUC, issued December 12, 1996).

[33] *See* Hatfield Associates, Inc., "Model Description: Hatfield Model Version 2.2 Release 2," (September 4, 1996).

The Delaware Commission relied on a Bell Atlantic cost model for setting unbundled network element rates, but – having found that the Bell Atlantic cost study used unrealistically low asset lives, insufficient switching cost discounts, an excessive common overhead mark up, and inefficiently low fill factors, among other errors – the Commission adjusted many of the model's inputs in an effort to conform the cost study to forward-looking economic principles.[34] Like the Minnesota Commission, it employed distribution plant fill factors between 50% and 75% and adopted FCC approved asset lives.[35] It also estimated Bell Atlantic's forward-looking cost of capital instead of relying on the FCC's 11.25% figure.[36] And, like its Minnesota counterpart, the Delaware Commission used a 10% corporate overhead factor.[37]

Adherence to the Commission's TELRIC methodology not only makes good economic sense, it produces reasonable, procompetitive rates. As Table 1 in Appendix 1 illustrates, the UNE platform rates for several illustrative states that generally applied a forward-looking methodology in establishing recurring UNE platform rates fall between –26.60% and –8.54% of the corresponding FCC proxy rate and between –4.44% and 13.71% of the HAI Model rate for that state. Notably, these forward-looking UNE-platform rates were derived in many different

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[34] *Application of Bell Atlantic-Delaware, Inc. for Approval of Its Statement of Terms and Conditions Under Section 252(f)*, PSC Docket No. 96-324, "Findings, Opinion & Order No. 4542," at 16-20 (P.S.C. of Delaware, July 9, 1997).

[35] *Id.* at 17-18.

[36] *Id.* at 16-17.

[37] *Id.* at 20-22.

fashions – use of the HAI Model,[38] modifications to incumbent LEC cost studies,[39] or a hybridization of the cost methodologies provided by the incumbent and competitive LECs. While some important implementation errors do elevate the recurring UNE-platform rates above their optimal levels, overall these states should be applauded for their efforts to set forward-looking network elements prices in practice as well as in principle.

Non-recurring charges and OSS cost recovery. Unfortunately, even those states that adhere to forward-looking cost methodologies with respect to recurring charges usually fail to do so with respect to non-recurring charges. As the Commission is well aware, incumbent LECs have sought to circumvent lower recurring UNE rates with high non-recurring charges. Proposed NRCs have run the gamut from hundreds of dollars for each loop request to hundreds of thousands of dollars for collocation space preparation and even tens of millions of dollars for software development. Given that these charges literally can equal years of recurring charges, they have the potential to eliminate UNE-based competition.

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[38] *See, e.g.*, Petition for Arbitration of an Interconnection Agreement between AT&T Communications and U S WEST Communications, "Arbitrator's Report and Decision," at 39 (Wash. Utils. & Transp. Comm'n Nov. 27, 1996), aff'd, Petition for Arbitration of an Interconnection Agreement Between AT&T Communications of the Pacific Northwest, Inc. and U S WEST Communications, Inc., "Commission Order Modifying Arbitrator's Decision," at 11 (Wash. Utils. & Transp. Comm'n July 11, 1997).

[39] *See, e.g., Application of Bell Atlantic-Delaware, Inc. for Approval of Its Statement of Terms and Conditions Under Section 252(f)*, PSC Docket No. 96-324, "Findings, Opinion & Order No. 4542," at 10-17 (Del. P.S.C., July 9, 1997).

Unconstrained by detailed Commission rules on NRCs, many states – including many that have reasonably estimated TELRIC recurring UNE rates – have authorized incumbent LECs to assess exorbitant non-recurring fees and OSS cost recovery schemes inconsistent with forward-looking pricing principles. Collocation has proven particularly problematic in this respect. For example, in Louisiana, BellSouth can charge entrants $5,000 just for submitting a collocation application and require them to pay for security escorts at rates ranging from $32.35 to $48.66 per half-hour.[40] Space preparation, manual cross-connects, and equipment installation, could require a competitive LEC to lay out millions of dollars just to collocate a single switch in a BellSouth wire center.[41] Further, under Individual Case Basis pricing new entrants cannot determine in advance the total cost of collocating in a particular office. If the incumbent LEC quotes an excessive cost, the new entrant will not collocate and it will lose its application fee.

The lack of Commission guidance regarding network architecture assumptions has allowed incumbent LECs to maximize cost estimates in both the non-recurring and recurring rate contexts. For example, in Massachusetts, the Massachusetts Department of Telecommunications and Energy permitted Bell Atlantic to set recurring UNE rates based on the (erroneous)

[40] Louisiana Pricing Order, Attach A at 8 (La. PSC, Oct. 22, 1997).

[41] *See Second Application by BellSouth Telecomms. et al. for Provision of In-Region, InterLATA Services in Louisiana*, CC Docket No. 98-121, Falcone Affidavit pp. 70-74 (Aug. 4, 1998); *Application by BellSouth Telecommunications, Inc. et al. For Provision of In-Region, InterLATA Services in Louisiana*, CC Docket No. 97-231, Falcone/Lesher Affidavit (Nov. 1997); *see also* Testimony of David Rahm, R.99-02-23 (OANAD) (California PUC, February 23, 1998) (Mr. Rahm, the Vice President of Network Development for MGC Communications, detailed collocation physical collocation charges between $120,000 and $700,000 as well as up front collocation charges of $70,000 to $80,000 for one hundred square feet of collocation space assessed on his company by incumbent LECs).

assumption that 100% of its feeder distribution was costly fiber optic cable. When it came time to estimate non-recurring charges, however, Bell Atlantic's cost study assumed that it had *copper* feeder distribution. This had the effect of elevating Bell Atlantic's proposed non-recurring charges because copper facilities require a physical cross-connection at the main distribution frame for each new customer, a cost not incurred when the feeder distribution contains only fiber.[42]

While other state commissions frequently do recognize that NRCs may be excessive, they often fail to take any meaningful action to reduce them to efficient levels. The Louisiana PSC concluded that "the [record] evidence reveals" that BellSouth's non-recurring charge proposals were "in some instances, excessive,"[43] but then promptly approved them with only minor adjustments.[44] The Arizona Corporation Commission properly determined that U S WEST had "not satisfied its burden to establish that [its proposed NRCs were] reasonable" and, indeed, had "significantly overstated" its charges.[45] Instead of requiring U S WEST to submit forward-

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[42] *See Consolidated Petitions for Arbitration of Interconnection Agreements*, Docket Nos. 96-73/74, et al., Rebuttal Testimony of Richard J. Walsh (Mass. DTE, Aug. 9, 1998). The Massachusetts Department of Telecommunications and Energy has yet to approve or disapprove Bell Atlantic's proposed NRCs.

[43] *Petitions by AT&T Communications, et al. For Arbitration of Certain Terms and Conditions of a Proposed Agreement with BellSouth Telecommunications Concerning Interconnection and Resale*, Docket No. 960833-TP et al., Order No. PSC-96-1579-FOF-TP, at 33 (Louisiana P.S.C. December 31, 1996) ("Louisiana Arbitration Order").

[44] *Compare Louisiana Arbitration Order* at 117-& (Table 2) (Commission-approved non-recurring charges) to Hearing Exhibit 66, DDC-7, Section 5 (BellSouth's proposed charges).

[45] *Petition of American Communications Services, et al., for Arbitration with U S WEST*, Docket No. U-3021-96-488, et al., Permanent Pricing Order, at 29 (Arizona Corp. Comm. October 8, 1997).

looking NRC cost studies, the Arizona Commission used U S WEST's embedded, pre-1996 Act tariffed rates and subtracted an "avoided cost" discount.[46]

Many state commission approved non-recurring charges clearly are based on inefficient technology assumptions. In New Jersey, network element service order charges were calculated under the erroneous assumption that an efficient local service provider would process the orders manually rather than using mechanized electronic order processing interfaces and systems – systems incumbent LECs routinely employ today.[47] The Delaware PSC approved excessive NRCs based on similarly inefficient technological assumptions.[48]

Given the willingness of state commissions to entertain non-recurring charges based on a manual order process, it is not surprising that service migration generally has been an area where state commissions have permitted incumbent LECs to assess excessive, inefficient, and unjustifiable non-recurring charges. In most instances, incumbent LEC's can charge no more than $5.00 for a Primary Interexchange Carrier ("PIC") change order and most incumbent LECs charge around $40.00 for the *combined* service of connection and disconnection.[49] Nevertheless,

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[46] *Id.*

[47] *Investigation Regarding Local Exchange Competition for Telecommunications Services,* "Telecommunications Decision and Order," Docket No. TX 95120631 (Dec. 12, 1997).

[48] *Application of Bell Atlantic-Delaware, Inc. for Approval of its Statement of Terms and Conditions Under Section 252(f),* "Findings, Opinion and Order No. 4542," PSC Docket No. 96-324, pp. 27-28, 53 and Exh. E (Del. PSC, July 9, 1997)

[49] As AT&T's NRC rates in Table 3, Appendix 1, demonstrates, the service initiation fees are clearly excessive and would be inappropriate for use in setting non-recurring charges. Consequently, non-recurring charges for service migration that equal or exceed these service initiation rates clearly are too high.

in the absence of clear Commission rules on non-recurring charges, state commissions have authorized a broad spectrum of service migration charges that, in most instances, far exceed similar historic charges. Hence, while the South Dakota Commission may have approved a UNE platform rate of only 27% above the HAI cost estimate,[50] it empowered U S WEST to charge competitive LECs $220.19 for each customer transfer using the UNE platform – a non-recurring charge that *exceeds 6 months* of recurring charges. Table 3 in Appendix 1 presents just some of the service migration charges many state commissions have authorized.

Finally, over two years after the Commission's deadline passed for incumbent LECs to develop real-time, electronic OSS interfaces,[51] incumbent LECs are attempting to recover from their potential competitors OSS cost recovery charges so high that entry into local telecommunications markets would be financially impossible. Some state commission have seen through this ruse, but many others have allowed incumbent LECs to erect this insurmountable barrier to meaningful competition through resale or UNE-based competition. In particular, states like Louisiana, Kentucky, and South Dakota have required competitive LECs to pay for *all* OSS development costs, including those incurred by the incumbent LEC.[52] Faced with millions of

[50] The HAI cost estimate for U S WEST in South Dakota is $21.46. The South Dakota Commission approved UNE rates that produce a platform cost of $27.35.

[51] The Commission required incumbent LECs to make OSS interfaces available "as expeditiously as possible, but in any event, no later than January 1, 1997." 47 C.F.R. § 51.320(f).

[52] AT&T and Bell South Interconnection Agreement, § 41 (Louisiana PSC, approved October 23, 1997); Order, *In re Interconnection Agreement Negotiations between AT&T Communications, Inc. and BellSouth Telecomms.*, No. 96-482 (Ky. PSC Feb. 6, 1997) (AT&T/BellSouth Arbitration); Order, AT&T/BellSouth Arbitration, No. 96-482 (Ky. PSC July 14, 1997); Findings of Fact and Conclusions of Law, *In re Interconnection Contract Negotiations between AT&T* (continued . . .)

dollars in OSS expenses as soon as the first customer is served – costs that the incumbent will not incur – a competitive LEC cannot afford to enter local markets in those states using resale or unbundled network elements. Fortunately, a few states have recognized the anti-competitive consequences of forcing entrants to pay for incumbent LEC OSS developments costs and, therefore, they have required each carrier to bear its own OSS development costs.[53]

In sum, it is clear that failure to consistently apply a single set of rules has generated tremendous variations in recurring UNE rates from state to state that cannot be attributed to differences in factual circumstances (*e.g.*, population density). Similarly, even if the Commission were to disregard the absolute values of the PIC charge, current local service initiation fees, and the AT&T non-recurring cost model estimates, it cannot ignore the extreme variation in service migration charges that have arisen in the absence of Commission rules. And even if the Commission did not agree with AT&T that carriers should bear their own OSS development costs, it cannot help but recognize the extreme variation in OSS cost obligations local entrants encounter from state to state.

(. . . continued)
Communications and U S West Communications, TC 96-184, at 25 ¶ 208 (S.D. PSC Mar. 21, 1997) (costs are recovered from CLECs on a per transaction basis).

[53] *See, e.g., In re Petition for Arbitration,* No. UT-960307, "Commission Order Approving Interconnection Agreement," at 24-25 (Wash. U.T.C. Aug. 25, 1997).

CONCLUSION

One consequence of the lengthy litigation over the Commission's jurisdiction to issue pricing rules has been to deny to the parties, state PUCs and federal courts guidance from the Commission regarding the application of forward-looking pricing principles. Having failed in their attempts to persuade the Commission in its 1996 local competition rulemaking to permit use of embedded costs, incumbent LECs blocked the enforcement of the Commission's rules and redirected their efforts to state PUCs, who are charged with the critical task of establishing the rates. These efforts -- like those before the Commission -- consisted not merely of attacks on forward-looking pricing, but attempts to disguise what are actually embedded cost methodologies as forward-looking.[54] This paper demonstrates that those efforts were not entirely unsuccessful. In order to promote competition, resume its role as administrator of national policy under federal law and provide guidance to state PUCs and federal courts in arbitrations

[54] *See, e.g., Local Competition Order*, ¶¶ 684-707 (discussion in local competition order rejecting as an embedded methodology a proposal to use existing network).

and review of interconnection agreements, the Commission should use every opportunity to explain, clarify and elaborate upon its forward-looking pricing rules.[55]

[55] *AT&T Corp. et al. v. Iowa Utilities Board et al.*, Nos. 97-826 *et al.*, slip op. at 10, n.6 (S.Ct. Jan. 25, 1999) ("The question is whether the state commissions' participation in the administration of the new federal regime is to be guided by federal-agency regulations. If there is any 'presumption' applicable to this question, it should arise from the fact that a federal program administered by 50 independent state agencies is surpassing strange").

APPENDIX 1

Table 1 below list states that generally applied forward-looking economic cost methodologies in setting recurring unbundled network element rates.[56] Some of these states did make methodological errors and, consequently, their UNE platform rates may overstate the true cost of providing that package of network elements. In addition, most if not all of those states made serious methodological errors when estimating non-recurring UNE rates or when allocating OSS development costs. Table 2 below lists a few sample states that have significantly departed from forward-looking economic pricing principles in establishing recurring UNE rates.

The "Ordered Platform Rates" were calculated, to the best of AT&T's knowledge, using the most recent state commission ordered recurring UNE rates. The individual recurring component prices along with HAI Model ARMIS data were used to estimate a platform rate using current traffic volumes and calling patterns.[57] The "FCC Benchmark Proxy Platform" rates were estimated in the same manner except that the state ordered UNE rates were replaced with the FCC's proxy UNE rates. The "HAI Model Platform" rates are generated by the HAI Model version 5.0a in the normal recurring UNE price estimating process.

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[56] Many of the state ordered UNE-P rates in the Tables 1-4 were adopted only on an interim basis. The methodologies employed by the same state commissions in subsequent permanent rate proceedings may or may not adhere to TELRIC principles.

[57] This calculation process requires differentiation among call types such as local and toll calls. Further, in many instances it was necessary to adjust the default calculation algorithm to accommodate state and incumbent LEC specific pricing factors.

Table 3 below depicts some representative non-recurring customer migration charges that AT&T currently pays or believes it would have to pay when ordering the UNE platform in the those states. In some instances, the migration NRC is the sum of multiple NRCs that would be triggered by a UNE platform order. The benchmark values – "PIC Fee," "TELRIC," and "Service Initiation Fee" – are based on the particular state's Primary Interexchange Carrier change fee, the AT&T/MCI Non-Recurring Cost Model estimate for customer migration TELRIC costs, and the service initiation fees reported in a recent *Tele*FOCUS report.[58] Retail service initiation fees typically recover disconnection costs and in all events are based on embedded cost methodologies. Hence, they are not an appropriate measure of forward-looking customer migration costs and service initiation fees should always exceed UNE-P migration costs.

Table 4 below ranks, from lowest to highest, 46 states based on the percentage of the RBOC's total lines located in high density zones, *i.e.*, zones with over 850 lines per square mile. It also ranks those states, from highest to lowest, by their ordered UNE platform rates. Because line density is by far the largest explanatory factor of UNE platform rates costs, increasing line density should closely track decreasing UNE platform rates. It is clear, however, that the rates ordered by states do not conform to this expectation. The Spearman rank correlation between the

[58] *Tele*FOCUS, *Special Industry Report*, "Addendum: RBOC Residential Local Rate Study" (February 16, 1999).

high density rank and the ordered UNE platform rate is 0.45.[59] We would expect a much higher correlation coefficient – approaching one – given that line density outweighs all other cost determinative factors collectively.

Table 1: ILEC Recurring UNE-P Rates In States Generally Adhering To FLEC Pricing

	Ordered Platform Rate	FCC Benchmark Proxy Platform	HAI Model Platform	% Mark Up over FCC Proxy	% Mark Up over HAI Model
Delaware	$18.43	$20.15	$16.59	-8.54%	11.09%
Minnesota	$17.90	$21.92	$16.07	-18.34%	11.39%
Oregon-GTE	$17.64	$21.05	$18.46	-16.20%	-4.44%
Oregon-USW	$18.08	$22.26	$15.90	-18.78%	13.71%

[59] Using a Fisher transformation, the rank coefficient is significantly greater than zero at the 99% level of confidence. The z-statistic derived using the Fisher transformation is approximately 3.20.

Table 2: ILEC Recurring UNE-P Rates In States Deviating From FLEC Pricing

	Ordered Platform Rate	FCC Benchmark Proxy Platform	HAI Model Platform	% Mark Up over FCC Proxy	% Mark Up over HAI Model
Florida	$29.23	$22.58	$13.30	29%	119.77%
Louisiana	$36.74	$27.72	$18.47	33%	98.92%
Massachusetts	$31.80	$16.14	$14.74	97%	115.74%
New Jersey	$23.95	$18.46	$12.73	30%	88.14%
Pennsylvania	$32.32	$19.28	$19.41	68%	66.51%
Rhode Island	$29.72	$17.82	$14.25	67%	108.56%
South Carolina-GTE	$51.02	$24.16	$21.10	127%	141.80%
Utah	$26.43	$22.49	$14.97	18%	76.55%
Wisconsin	$28.77	$22.60	$13.26	27%	116.97%

Table 3: RBOC Non-Recurring Customer Migration Charges

	Migration Fee	PIC Fee	TELRIC	Service Initiation Fee	% Mark Up over PIC Fee	% Mark Up over TELRIC	% Mark Up over Service Initiation Fee
Arizona	$83.50	$5.00	$0.23	$48.92	1,570.00%	36,204%	70.69%
Arkansas	$60.00	$5.00	$0.21	$44.71	1,100.00%	28,471%	34.20%
Colorado	$100.00	$5.00	$0.23	$37.56	1,900.00%	43,378%	166.24%
Delaware	$35.70	$5.00	$0.24	--	614.00%	14,775%	--
Florida	$1.46	$1.49	$0.21	$40.00	-2.01%	595%	-96.35%
Minnesota	$2.83	$5.00	$0.23	$19.63	-43.40%	1,130%	-85.58%
Missouri	$5.00	$5.00	$0.21	$43.06	0%	2,281%	-88.39%
Oklahoma	$102.87	$5.00	$0.21	--	1,957.40%	48,886%	--
Pennsylvania	$5.71	$5.00	$0.25	$40.00	14.20%	2,184%	-85.73%
South Dakota	$220.19	$5.00	$0.23	--	4,303.80%	95,635%	--
Utah	$228.88	$5.00	$0.23	$26.30	4,477.60%	99,413%	770.27%

Table 4: High Density Rank Versus Ordered UNE Platform Rate

State	% Lines in High Density Area	UNE-P Rate	Highest to Lowest Density Rank[60]	Ordered UNE-P Rate Rank[61]
DC	0.9921	15.96	1	3
CA	0.8740	21.83	2	15
IL	0.8701	15.52	3	2
NY	0.8628	23.33	4	19
NJ	0.8534	23.95	5	21
PA	0.7876	32.32	6	41
CO	0.7833	37.73	7	45
TX	0.7809	19.38	8	8
UT	0.7776	26.05	9	27
FL	0.7727	29.23	10	35
NE	0.7697	23.07	11	18
WA	0.7605	15.15	12	1
OR	0.7582	18.08	13	5
OH	0.7552	21.02	14	11
WI	0.7545	28.77	15	31
VA	0.7506	20.47	16	10
MD	0.7446	19.32	17	7
MO	0.7416	21.89	18	16
MN	0.7404	17.90	19	4
MI	0.7343	21.24	20	12
IN	0.7234	21.64	21	13
RI	0.7223	29.72	22	37
MA	0.7178	31.80	23	40
KS	0.7046	19.82	24	9
NM	0.6556	25.99	25	26
ND	0.6538	24.83	26	23
DE	0.6425	18.43	27	6
OK	0.6412	29.26	28	36
CT	0.6411	22.42	29	17
SD	0.6370	27.35	30	30

[60] The state/RBOC with the highest percentage of lines in density zones with over 850 lines per square mile was assigned a Density Rank of 1. The state with the lowest percentage of lines in density zones with over 850 lines per square mile was assigned a Density Rank of 46. Data were not available for four states.

[61] The state/RBOC with the lowest Ordered UNE-P rate was assigned an Ordered Rate Rank of 1. The state/RBOC with the highest Ordered UNE-P rate was assigned an Ordered Rate Rank of 46. Data were not available for four states.

State	% Lines in High Density Area	UNE-P Rate	Highest to Lowest Density Rank[60]	Ordered UNE-P Rate Rank[61]
ID	0.6350	31.00	31	39
GA	0.6160	21.79	32	14
IA	0.6152	24.33	33	22
LA	0.6138	36.74	34	44
MT	0.5899	32.66	35	43
NC	0.5668	24.84	36	24
TN	0.5394	23.61	37	20
WY	0.5310	32.39	38	42
KY	0.5087	27.34	39	29
SC	0.4955	29.85	40	38
AL	0.4831	26.67	41	28
WV	0.4447	43.61	42	46
NH	0.4358	29.01	43	33
VT	0.4188	29.17	44	34
ME	0.3967	25.14	45	25
MS	0.3773	28.97	46	32